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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,242	04/14/2004	David H. Hanes	200309081-1	6424

22879 7590 04/07/2010

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EXAMINER	
BRUCKART, BENJAMIN R	
ART UNIT	**PAPER NUMBER**
2446	

NOTIFICATION DATE	DELIVERY MODE
04/07/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/824,242	HANES, DAVID H.	
	Examiner	Art Unit	
	BENJAMIN R. BRUCKART	2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 March 2010 and 30 November 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-25,27-36,38,40-43 and 45-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-25,27-36,38,40-43 and 45-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-2, 4-14, 16-25, 27-36, 38, 40-43, 45-48 are presented for examination.

Claims 1, 13, 24, 33, 38 and 43 are independent.

Claims 3, 15, 26, 37, 39, 44 are cancelled.

Response to Arguments

In view of the appeal brief filed on 11/30/09 and the supplemental brief filed 3/4/10, PROSECUTION IS HEREBY REOPENED. A new grounds of reject is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Jeffrey Pwu/
Supervisory Patent Examiner, Art Unit 2446

Applicant's invention as claimed:

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 43, 45-48 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The instructions are embodied on a computer readable medium. Said medium is interpreted to include non-statutory subject matter such as carrier waves, signals, and communication media because carrier waves, signals, and communication media store data within the wave, signal or media. The specification lists non-statutory examples on page 11, those include electronic, magnetic, optical and electro-magnetic and propagation mediums. The examiner encourages applicant to amend the claims and specification with explicit arguments that the medium is 'non-transitory' or 'non-transmissible.'

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 4-14, 16-23, 33-36, 43, 45-48 are rejected under 35 U.S.C. 103(a) as being unpatentable Heil et al. (USPN 6,173,374) (hereinafter Heil) in view of by Miyoshi et al. (USPN 6,901,451) (hereinafter Miyoshi).

Referring to claim 1, Heil discloses an I/O request processing system (i.e. nodes 150), comprising:

a drive command module adapted to receive an I/O request from a client application (i.e. host's upper layers, which contain the software needed to operate the host system) referencing a data block request for processing said I/O request (i.e. I/O redirector software 240) (Figure 2; Figure 3, ref. 400; col. 10, lines 50-65; col. 11, lines 45-52); and

a redirector adapted to automatically and transparently convey the I/O request over a communication network 121 to a remote peripheral device 151 for processing of the I/O request (i.e. the I/O redirector software calls the I/O ship ISM in order to ship request to remote HBA, the host's upper layers 200,300 have no knowledge of the redirection, it merely waits for the request to be fulfilled by the I/O driver) (Figure 3, ref. 450; col. 11, line 45 to col. 12, line 7).

Heil does not explicitly disclose the request referencing a local peripheral address of a peripheral device to execute the I/O request.

In analogous art, Miyoshi discloses another I/O request translation system which receives an I/O request of a local peripheral device (i.e. PCI request references a local PCI address space which is then mapped to a plurality of remote peripheral devices represented by the remote PCI address space) at a module which references a local peripheral address to execute the I/O request (Figure 5; col. 12, lines 25-37; col. 4, lines 30-67),

the redirector is adapted to replace the local peripheral address with an address of the remote peripheral device (i.e. translate the local address space to an address of the remote device) (Miyoshi: Figure 10a, ref. 1003; col. 4, lines 31-36).

It would have been obvious to one of ordinary skill in the art to combine the teaching of Miyoshi with Heil by substituting the block directory subsystem of Heil with the address/node ID translator 309 of Miyoshi in order for the users of Heil to realize the benefits of Miyoshi, specifically the ability to transfer local PCI bus transactions from a local node of a PCI bus to a PCI bus on a remote node over a network (Miyoshi: col. 1, lines 55-57).

Referring to claim 2, Heil-Miyoshi discloses the redirector is adapted to correlate the local peripheral address space with an address of the remote peripheral device (i.e. translate local address space to address of remote device) (Miyoshi: Figures 3 and 10a).

Referring to claim 4, Heil-Miyoshi discloses the drive command module calls a bus driver (i.e. I/O shipping ISM 270) to invoke the redirector (i.e. I/O ISM 270 formats the request and sends the request out to the network) (Heil: col. 11, lines 35-45).

Referring to claim 5, Heil-Miyoshi discloses a network server (i.e. remote network PCI adapter 419) adapted to receive the I/O request from the communications network and execute a command (i.e. various PCI commands such as read/write) to process the I/O request via the remote peripheral device (i.e. device 415A-B) (Miyoshi: Figure 4; col. 9, line 57 to col. 10, line 24).

Referring to claim 6, Heil-Miyoshi discloses the I/O request includes a field identifying the local peripheral address (Miyoshi: Figure 5; Figure 6, refs. 615, 620).

Referring to claim 7, Heil-Miyoshi discloses a relational database (i.e. node ID table) to correlate local peripheral address with an address of a remote peripheral device (Miyoshi: Figure 7a, ref. 703; col. 10, lines 50-64).

Referring to claim 8, Heil-Miyoshi discloses formatting a drive command issued by the drive command module for delivery over the communications network to the remote peripheral device (i.e. I/O ISM formats the request into a format to be transmitted over the network) (Heil: col. 11, lines 35-45).

Referring to claim 9, Heil-Miyoshi discloses the redirector inserting an address associated with the remote peripheral device into the drive command (Heil: col. 11, lines 35-55; Miyoshi: col. 10, lines 50-64).

Referring to claim 10, Heil-Miyoshi discloses the network server receives the I/O request from the network and extracts an address associated with the remote peripheral device (i.e. translation of a destination address from a base address and address offset of a local I/O request) (Miyoshi: col. 10, line 65 to col. 11, line 14).

Referring to claim 11, Heil-Miyoshi discloses the local peripheral address corresponding to a local peripheral address of a host device of a drive command module (i.e. the local address

references an address which corresponds to an address space indicating that the request is a remote address request) (Miyoshi: Figure 5).

Referring to claim 12, Heil-Miyoshi disclsoes the redirector is disposed on the host device (i.e. I/O ISM software is on the node) (Heil: col. 11, lines 35-45).

Claims 13-23 recite essentially the same limitations of claims 1-12 in method form and are rejected for similar reasons as stated above.

Claims 33-37 recite essentially the same limitations of claims 1-12 in means-plus function language and are therefore rejected for similar reasons as stated above.

Claims 43-48 recite essentially the same limitations of claims 1-12 in a computer-readable medium and are therefore rejected for similar reasons as stated above.

Claims 24-25, 27-32, and 38, 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heil-Miyoshi in view of Hewitt (USPN 5,987,541).

Referring to claim 24, Heil-Miyoshi disclose the invention substantively as described in claims 1-12.

Heil-Miyoshi do not explicitly disclose that the I/O request is to record data to an optical medium, however Miyoshi does disclose that the I/O request can be a write request (see rejections above).

In analogous art, Hewitt discloses another computer system which discloses an optical drive (i.e. CD-ROM drive 132) on a PCI bus 120 (Figure 1).

It would have been obvious to one of ordinary skill in the art to combine the teachings of Heil-Miyoshi to substitute the remote device on the PCI bus 201c-e of Miyoshi with the CD-ROM drive of Hewitt in order to provide the benefits of Hewitt to Heil-Miyoshi, specifically the ability to communicate with an optical drive via a well known bus protocol such as PCI.

Claims 25-32 and 38-42 are rejected for similar reasons as stated above.

REMARKS

The examiner reopens to assess a 101 to claims 43, 45-48. The examiner reminds applicant that the claims are still twice rejected and eligible for appeal.

The Applicant Argues:

Page 9 of the brief, appellant argues the Heil reference does not teach "receiving an I/O request from a client application, referencing a local address and redirect the I/O request automatically and transparent to the client application over the communications network to a remote peripheral device" or performing this "automatically and transparent to the client application."

On page 10, appellant argues Miyoshi does not teach "a local peripheral address of a peripheral device for processing the I/O request."

In response, the examiner respectfully submits:

The prior art teaches the invention as claimed and therefore the examiner maintains the rejection.

First with respect to the Heil reference, Heil is cited and is produced to show processing I/O requests from a client application (see: col. 10, lines 50-65) referencing a data block with the I/O request. Heil shows Node 150 contains layers to interface and management communication between the host and the HBA's software. Col. 11, lines 45-53 illustrate the HBAs retrieve data corresponding to an I/O request for stored data blocks. Heil further teaches a redirector to automatically and transparently convey the I/O request over the network to a remote peripheral device (other HBA device Node 151) for processing of the I/O request. Col. 11, lines 54-65 illustrate a the request is to a remote block of data that request a connection over the network.

This is performed automatically and transparent to the client because all of the redirectors functions are performed internally so the client does not to be aware of the redirector's accessing another device. This is consistent with appellant's specification para 16. The request process is the same (as seen from the higher host layers) for local requests as they are for remote requests. By this rationale, the redirection is completely transparent to the client application and therefore the rejection is maintained. It is automatically performed because it does not require intervention by the requesting application. The redirector performs the steps.

Appellant's argument that Heil does not teach the client application referencing a local peripheral address is correct. This is mentioned in the lacking state of the combination, "Heil does not explicitly disclose the request referencing a local peripheral address of a peripheral device to execute the I/O request."

In analogous art, Miyoshi discloses an I/O request translation system which receives an I/O request of a local peripheral device (i.e. PCI request references a local PCI address space which is then mapped to a plurality of remote peripheral devices represented by the remote PCI address space) at a module which references a local peripheral address to execute the I/O request (Figure 5; col. 12, lines 25-37; col. 4, lines 30-67). Miyoshi's peripheral device receives a request and can perform destination address and destination node ID translation. Miyoshi also teaches a redirector is adapted to replace the local peripheral address with an address of the remote peripheral device (i.e. translate the local address space to an address of the remote device) (Miyoshi: Figure 10a, ref. 1003; col. 4, lines 31-36).

On page 10 of the remarks, appellant argues the address of the PCI is not a local peripheral address of a peripheral device for processing the I/O request. It seems appellant is taking a specialized definition of the term peripheral. The Webster dictionary defines peripheral as "adj. 1. relating to, situated on, or comprising the peripheral. 2. Auxillary. 3. Of, relating to or being the outer area of the visual field." This allows for the examiner interpretation because the devices map and translate to other "peripheral devices" because they are associated with and related to the pci bus where the address is received.

Motivation in doing so would be to combine the teaching of Miyoshi with Heil by substituting the block directory subsystem of Heil with the address/node ID translator 309 of Miyoshi in order for the users of Heil to realize the benefits of Miyoshi, specifically the ability to

transfer local PCI bus transactions from a local node of a PCI bus to a PCI bus on a remote node over a network (Miyoshi: col. 1, lines 55-57).

Regarding claims 24-25, 27-3, 38, and 40-42, appellant argues the combination does not teach the limitation of 'receiving a drive command from a client application to record data to an optical medium and formatting the drive command to record data to an optical medium and formatting the drive. Many of these features are argued above and rely on Heil and Miyoshi to teach the formatting and translating of data in an I/O request. The Hewitt reference is relied upon to teach you can perform requests to input/output to an optical drive on a bus similar to Miyoshi. Further, the optical drive can also constitute a peripheral device in which the requests to access and write to are directed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin R. Bruckart whose telephone number is (571) 272-3982. The examiner can normally be reached on 9:00-5:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Benjamin R Bruckart
Primary Examiner
Art Unit 2446

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